

What is claimed is:

1. A semiconductor laser device comprising a semiconductor multi-layer film formed by laminating optical confinement layers and active layers so as to dispose each of said active layers between said optical confinement layers, wherein one of the opposite ends perpendicular to the junction planes of the individual layers in said semiconductor multi-layer film is coated with a low reflection film and the other of said ends is coated with a high reflection film,

wherein said low reflection film contains a film comprised of at least Al_2O_3 having a resistivity of $1 \times 10^{12} \Omega \cdot \text{m}$ or more.

2. The semiconductor laser device according to claim 1, wherein said low reflection film is formed from a single layer.

3. The semiconductor laser device according to claim 1, wherein said low reflection film is formed from a plurality of layers.

4. The semiconductor laser device according to claim 3, wherein said plurality of layers are a composite film formed from a film comprised of said Al_2O_3 and a film which contains Si and has a refractive index higher than that of said Al_2O_3 .

5. The semiconductor laser device according to claim 4, wherein said film which has a refractive index higher than that of said Al_2O_3 is selected from the group consisting of Si, α (amorphous)-Si and SiN.

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6. The semiconductor laser device according to claim 1, wherein said high reflection film contains a film comprised of at least Al_2O_3 having a resistivity of $1 \times 10^{12} \Omega \cdot \text{m}$ or more.

7. The semiconductor laser device according to claim 6, wherein said high reflection film is a composite film formed from a film comprised of said Al_2O_3 and a film which contains Si and has a refractive index higher than that of said Al_2O_3 .

8. The semiconductor laser device according to claim 7, wherein said film which contains Si is selected from the group consisting of Si, α (amorphous)-Si and SiN.

9. A semiconductor laser device comprising a semiconductor multi-layer film formed by laminating optical confinement layers and active layers so as to dispose each of said active layers between said optical confinement layers, wherein one of the opposite ends perpendicular to the junction planes of the individual layers in said semiconductor multi-layer film is coated with a low reflection film and the other of said ends is coated with a high reflection film,

wherein said low reflection film contains a film comprised of Al_2O_3 having a stoichiometric ratio composition.

10. The semiconductor laser device according to claim 9, wherein said low reflection film is formed from a single layer.

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11. The semiconductor laser device according to claim 9, wherein said low reflection film is formed from a plurality of layers.

5 12. The semiconductor laser device according to claim 11, wherein said plurality of layers are a composite film formed from a film comprised of said Al_2O_3 and a film which contains Si and has a refractive index higher than that of said Al_2O_3 .

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13. The semiconductor laser device according to claim 12, wherein said film which contains Si is selected from the group consisting of Si, α (amorphous)-Si and SiN.

15 14. The semiconductor laser device according to claim 9, wherein said high reflection film contains a film comprised of at least Al_2O_3 having a substantially stoichiometric ratio composition.

20 15. The semiconductor laser device according to claim 14, wherein said high reflection film is a composite film formed from a film comprised of said Al_2O_3 and a film which contains Si and has a refractive index higher than that of said Al_2O_3 .

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16. The semiconductor laser device according to claim 15, wherein said film which has a refractive index higher than that of said Al_2O_3 is selected from the group consisting of Si, α (amorphous)-Si and SiN.

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17. The semiconductor laser device according to any one of claims 1 to 16, wherein said Al_2O_3 film is deposited by an electron cyclotron resonance plasma sputtering process, an

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electron beam evaporation process, or an electron beam sputtering process.

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